

WHAT IS CLAIMED IS:

1           1. A method for operating a digital versatile disk (DVD) system, the  
2 method comprising steps of:

3                 reading first digital information from a DVD player;  
4                 decompressing the first digital information to create second digital  
5 information;

6                 storing the second digital information;  
7                 manipulating the second digital information in order to produce third  
8 digital information different from the second digital information; and  
9                 displaying the third digital information.

1           2. The method of claim 1, further comprising steps of:

2                 analyzing the first digital information; and  
3                 determining motion information between a plurality of frames in the first  
4 digital information.

1           3. The method of claim 1, wherein the manipulating step comprises a  
2 step of image processing a first frame in order to produce a second frame different from  
3 the first frame.

1           4. The method of claim 1, wherein the decompressing step comprises  
2 steps of:

3                 parsing the first digital information which includes an MPEG video  
4 stream; and

5                 decoding the MPEG video stream to create the second digital information  
6 which includes a plurality of video frames.

1           5. The method of claim 1, wherein the manipulating step comprises  
2 one of the following steps: enhancing contrast, controlling luminescence, correcting  
3 color, correcting gamma, sharpening images, adjusting color saturation, zooming a block,  
4 embossing images, posterizing images, and warping images.

1           6. A DVD system for manipulating information stored on a DVD,  
2 comprising:

3                 a DVD player which produces a plurality of digital frames;

4                   a buffer which stores at least one digital frame;  
5                   a media processing subsystem which manipulates the plurality of digital  
6 frames to produce a plurality of processed frames; and  
7                   a video display which displays the plurality of processed frames.

1                 7. The DVD system of claim 6, wherein the media processing  
2 subsystem performs one of the following operations on the digital frames in order to  
3 produce the processed frames: enhancing contrast, controlling luminescence, correcting  
4 color, correcting gamma, sharpening images, adjusting color saturation, and zooming a  
5 block.

1                 8. The method of claim 6, wherein the producing step comprises one  
2 of the following steps: embossing images, posterizing images and warping images.

1                 9. The DVD system of claim 6, wherein the processed frames are  
2 displayed at a rate of at least twenty-four frames per second.

1                 10. The DVD system of claim 6, further comprising means for  
2 converting the processed frame into a format compatible with the video display.

1                 11. The DVD system of claim 6, wherein the media processing  
2 subsystem comprises a plurality of media processors.

1                 12. The DVD system of claim 11, wherein each media processor  
2 comprises a central processing unit and a processing buffer.

1                 13. A method for processing digital video in real-time, the method  
2 comprising steps of:

3                   reading a compressed data stream;  
4                   obtaining first motion information between a first plurality of frames  
5 associated with the compressed data stream;  
6                   decompressing the compressed data stream in order to produce a second  
7 plurality of frames; and  
8                   producing a first output frame related to the second plurality of frames and  
9 the first motion information.

1                 14. The method of claim 13, further comprising steps of:

2 reading a new frame from the compressed data stream;  
3 discarding an old frame from the first plurality of frames;  
4 organizing the new frame and the first plurality of frames minus the old  
5 frame to form a third plurality of frames;  
6 obtaining second motion information between the third plurality of frames;  
7 and  
8 producing a second output frame related to the third plurality of frames  
9 and the second movement information.

15. The method of claim 14, further comprising a step of displaying the  
1 first and second output frames at a rate of at least twenty-four frames per second.

16. The method of claim 13, wherein the reading step comprises a step  
2 of reading an MPEG data stream from a DVD drive.

17. The method of claim 13, wherein the decompressing step  
2 comprises a step of executing a software decompression algorithm on a media processing  
3 subsystem.

18. The method of claim 13, further comprising a step of producing  
2 multiple samples for a pixel using information from the first plurality of frames.

19. The method of claim 13, wherein the producing step comprises one  
2 of the following steps: enhancing contrast, controlling luminescence, correcting color,  
3 correcting gamma, sharpening images, adjusting color saturation, and zooming a block.

20. The method of claim 13, wherein the producing step comprises one  
2 of the following steps: embossing images, posterizing images, and warping images.

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